The Indian Poultry Gazette.

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CONTENTS.

	Page.
From the Editor's Chair	... 151
Practical hints on Poultry housing and equipment in India	... 153
Poultry Industry	... 158
Profit from your Poultry	... 158
The relation between animal husbandry and Veterinary Science ...	... 160
Fattening Fowls	... 162
Some useful hints	... 162
Letters to the Editor	... 164
The influence of diet upon the course of Coccidiosis infection in Chickens	... 166
Producing and handling quality Eggs ...	... 167
Practical notes and seasonal advice ...	... 169
? ? ? ? ...	... 170

FROM THE EDITOR'S CHAIR.

We are glad to place before our readers elsewhere in this issue our views as contained in our article "Profit From Your Poultry, etc," regarding "Buff Orpington's" letter that appeared in the August issue. We do not understand why, besides adopting the suggestions made in our article and Editorial Notes in the August issue, the cost of production should not be brought to the barest minimum in this country so as to facilitate selling the produce at such prices as may make it possible for the producer of better quality eggs and fowls to compete with the Khatick. We would now request our readers to let us know what they think of this question which has so often been discussed in the press. We wish to draw our readers' attention to Major Rose's article on his experiences with "Egg Marketing in Mussoorie, U. P." and would repeat our remarks about "Marketing" in India in our Editorial Notes in the July issue. We think his scheme is worth a trial. His suggestions regarding a Stall are similar to ours as made in our article in the Pioneer.

We are very sorry to again have to announce the death of another well-known poultry breeder Mr. A. C. Bullmore of Madras and wish to convey our most sincere condolence to the relatives of the deceased. We hope our readers join us in doing so.

We are glad to say we have received an interesting article from Mr. Cavas Jussawala about "When is an egg not just an egg" and hope to publish it in our next issue.

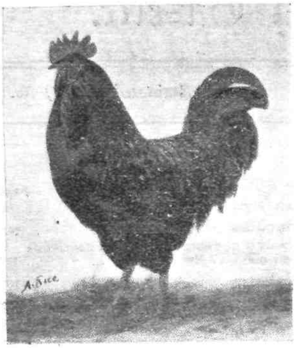
A very vexed question in India regarding the Poultry Industry is "Which is the most suitable breed in every respect for the Indian villages"? We think it is necessary for such a breed to have the characteristic of broodiness in it, for at least another fifty years, in India, as the villager will not be able to afford an incubator and even if he did, he will not have the requisite knowledge to handle the same. A breed that may answer this purpose is the pure Bussrah, so much talked about as suitable for crossing with White Leghorns and introducing in the villages. We think it is worth experimenting upon. In this connection it might interest our readers to know that egg records of this breed at the U.P.P.A. Farm and the Egg Laying Test in England average about those of pure breeds.

We have received an article on and a Standard for it from Mr. I. B. Turkman, Hony. Editor, Murghe Sahar, the Urdu Journal of the U. P. P. A., and hope to publish it in our next issue. He also has requested us to ask our readers to let him know, by the Gazette address, if any one has got this breed, and if so, if he or she has to offer any suggestions regarding changes in the Standard.

We apologise to our readers for some serious mistakes made by our Printers in the August issue, specially in the "Buff Orpington's" letter both in the letter and in our Editorial Note in its connection. We hope the Gazette will be in time in future.

The Delhi Government, we regret to announce, cannot see their way to making a grant towards the All India. We are awaiting, however, a reply from them for other assistance, and from Mr. Grindal regarding dates and hope to inform our readers about our decision regarding the latter as soon as we receive the said reply. We are sorry for the inconvenience caused to our readers on account of this delay.

We are glad to be able to say that the finances of the Club are in a very good condition and correspondence is pouring in every day from poultry keepers who are anxious to join us. This is because, we think, they now are beginning to feel that the advantages of membership have increased now and members can get assistance in many ways.



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Mrs. Grain has imported a further pen of *this wonderful dual purpose* fowl SEE THEM AT THE SHOW and judge for yourselves.

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No. 1 pen per setting Rs. 25.—*Headed by imported cockerel of magnificent* type bred from 267 egg dams, mated to 2 imported pullets of 251 egg dams, and 6 of my last year hens specially selected for heavy egg production.

No. 2 pen per setting Rs. 15.—Headed by imported cock, 1st Lucknow 1930, fully acclimatised, proved sire of winners, his son was placed 1st in class Calcutta 1931, mated to 8 selected pullets sired by cockerel placed 2 in class at Calcutta January 1931.

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No. 1 pen per setting Rs. 15.—Headed by imported cock of 280 egg strain mated to 10 hens of good utility type and layers of large eggs.

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15 eggs sent with each setting in full satisfaction.

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Every BLACK LAKE bird is a pedigree bird of known parentage. All Pullets are trapnested daily. NO PULLET BREEDING. NO FLOCK MATING. NO BATTERY BROODERS.

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Trios from £**7,** £**8,** £**10** to £**15.**
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THE HON. GERALD S. MONTAGU.

BLACK LAKE POULTRY FARM, - - - EGHAM, SURREY, ENGLAND.

9 **Cables:—"EGGS, EGHAM".**

We hope strongly that with the kind co-operation of our Committee Members and readers we would be able to make the Club much more useful than what it, hitherto, has been.

We invite readers' attention to some very interesting and instructive articles in the August and this issue, *viz*, "Producing and handling quality eggs", "The influence of diet upon the course of Coccidiosis infection in Chickens", the fourth instalment of Captain Sherrard Smith's article on "Practical Hints on Poultry Housing and Equipment in India" and "The Relations Between Animal Husbandry And Veternary Science."

We are glad to be able to say that we sent a few samples of the "Cureall Pills" to some of our readers and they report that they found them very useful and they think they are an effective cure in many fowl ailments.

We wish to inform our readers that the well-known and most popular Editor of the Poultry World, Mr. C. A. House, has retired and the duties have been entrusted to Mr. C. G. May, who has been one of his assistants. We wish Mr. House, who has been of such great help to the Poultry Industry, many many years of a very happy and prosperous life. We congratulate Mr. May, the in-coming Editor on his appointment and wish him every success in his task of great public service.

We sincerely wish all the exhibitors of the South Indian Poultry Association Show could be our members and show their birds in the next All India. We refer them to our membership concession mentioned in this issue.

We would remind readers to be very careful about the condition of their birds as they must be in a moult. They should also take special care regarding vermin, as this is the time when they breed most. Cleanliness and dusting with insect powders "Keatings" or "Sodium-Fluoride" must be done very frequently.

We are sure exhibitors must be very busy preparing their birds for the next All-India, where we hope to have some keen competition and new judges this year.

We would also invite readers' special attention to the announcement regarding the Fitfh World's Poultry Congress, to be held in Rome, Italy from the 6th to the 15th September, 1933, and request those interested in India's representation at it, to get moving now and form an Indian National Committee. We shall be glad to hear from them in this connection.

We refer our readers to the Murghe-Sahar advertisement and suggest our Urdu-knowing friends take this journal which is published by the U. P. P. A. They can advertise their name or that of their farm, etc., in it, according to the particulars given, at Rs. 2 per annum.

PRACTICAL HINTS ON POULTRY HOUSING AND EQUIPMENT IN INDIA.

Part 4.

By

CAPT. W. SHERRARD-SMITH, M.C.

(Continued from last month)

A Complete Unit.—What constitutes a complete Unit? There must be at least *four pens*. One for rearing chicks, one for mating the rooster with his harem, one for the flock of hens, and one for a spare cockerel or two.

One W.S. (A) type house will be required in the Chick pen, one of the same type in the Breeding pen, and in the Flock pen two to five (according to the number of birds kept) of either the (A) or (B) type (according to whether the birds are to be trap-nested or not). Fig. 3 is a plan showing the position of these houses, the shed built to accommodate them and the covered run. A is the house in the Chick pen, B the house in the Breeding pen, and C. D. E. F. G. the houses in the Flock pen. There should be no deviation from the measurements given as they represent the minimum requirements.

This unit will allow for Brood of chicks up to 50 in number, the married family of one cock and 6 to 7 hens, and a flock of 40 laying hens accommodated in (B) type houses. The plan in elevation is shown in Fig. 4.

If more than 40 laying hens are desired in the Flock pen, this number can be doubled without any additional cost in housing, provided (A) type houses are used. The bottom compartments can also be made to accommodate another 8 fowls each. A perch is placed in position for the birds to roost on at night. Every morning this is removed, the droppings board cleaned, and a handful of straw put inside to serve as the nest during the day. By this means a single W. S. (A) type house can be made to accommodate, 16 birds with the greatest comfort and cleanliness—what else can one desire? In the Breeding pen, the lower compartment is used as the nest, while in the Chick pen both compartments are used for housing the chicks; at first they are all accommodated in one compartment and as they increase in size, both compartments are made use of.

In all the runs shown in the plan there is sufficient floor space under cover for breakfast and supper during wet weather.

If however the five houses in the Flock pen are to be used on the double deck principle so as to accommodate 80 birds then the shed will require to be increased, as nothing is more objectionable than to have no protection under which the birds can feed during wet weather. The covered run will also have to be extended so as to afford at least 5 square feet of scratching space per bird.

DO NOT LOSE THIS OPPORTUNITY.

Who will win prizes at poultry exhibitions in India and make sure that he is breeding the type of bird that would fill the egg basket with right size eggs and be true to its breed standard ?

Only the Breeder who buys from us and thoroughly studies the following Coloured Plates :—

Leghorns Black and White | **Black Minorcas**
Light Sussex | **Rhode Island Reds**

Wyndottes, Partridge, Buff and Blue Laced

TYPES OF UTILITY POULTRY.

We also hope to receive copies of the "Feathered world year Book for 1932" from England as some of our readers were anxious to get these.

RATES:—Plates at Re. **0-8-0** each; three of one breed at Rs. **1-6-0** only, available after the 25th of this month; packing and postage extra.

Hony. Editor,
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SPECIALIZES IN :—

DUAL PURPOSE EXHIBITION AND UTILITY R. I. REDS.
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EXHIBITION AND UTILITY WHITE LEGHORNS.

EGGS FOR HATCHING.

R. I. REDS. EX-UTILITY	... **Rs. 30/-** per Dozen.	UTILITY MINORCAS	... **Rs. 18/-** per Dozen.
R. I. REDS UTILITY	... **Rs. 18/-** per Dozen.	EXHIBITION LEGHORNS (Dewar's)	... **Rs. 24/-** per Dozen.
EXHIBITION MINORCAS (Imported Pen)	... **Rs. 30/-** per Dozen.	UTILITY LEGHORNS	... **Rs. 18/-** per Dozen.

Packing and despatch free. 15 eggs sent to the Dozen.

UNTIL FURTHER NOTICE ALL EGGS FOR HATCHING HALF PRICE.

BREEDING STOCK FOR SALE.

Cocks, Cockerels, Hens, Pullets, Exhibition White Leghorns Rs. **15/-, 20/-** and **25/-** each.
Utility White Leghorns Rs. **10/-, 15/-** and **20/-** each.

Crate and Freight extra at cost.

SATISFACTION GUARANTEED.

1. **A. E. SLATER, *Manager*.**

The W. S. Houses are easily adaptable to almost any condition, they can be used anywhere. If you have three spare out-houses, let them serve the purpose of the shed shown in the plan. Place the W. S. houses inside them, enclose the frontage of each with a wire-netting run (as shown in the plan) and you have your "Complete Unit". If you have only a verandah to spare, use that as the shed. Divide it into three compartments and afford an enclosed run to each. *But for Heaven's sake* whatever else you do, do not let the birds roost at night anywhere else but inside the W. S. houses. Also see that there is oil, tar or some such liquid in the cups in which the legs of the houses stand. Old oil from the motor car is excellent, any garage will be glad to give you some.

So far I have made no mention of the Cockerel houses. These are made on the same principle as the W. S. house but only one compartment is required 2 feet wide by 2 feet long and 2 feet high standing on four legs 18 inches off the ground.

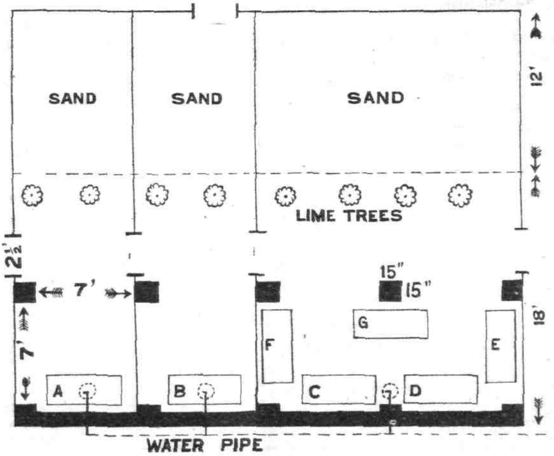

FIGURE 3. The shaded portion indicate masonry wall.

A lean—to shed of the same dimensions as the shed shown in the plan, *is made against the back wall* of the unit depicted. The length to be governed by the number of cockerels kept. Allow 4 feet for each cockerel and partition off this shed with netting. *A short open run say about 8 feet should be afforded* to each bird. Each cockerel will then have a shed affording 7′ × 4′ floor space and an open run 8′ × 4′.

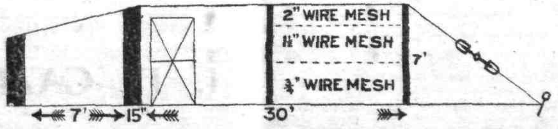

FIGURE 4.

Up to this time I have catered only for the poor villager who sticks his W. S. house under the eaves of his hut, John Citizen who may stick his W. S. house in the verandah of his out-house, and the more thorough fancier who undertakes the rearing of fowls more thoroughly, for whom the complete unit system has been worked out.

But there is the fancier who keeps two breeds. All that he is required to do is to add at least one more Breeding pen for the other breed.

Three more breeds will require further additions and modifications to suit requirements.

I am not in favour of the flocks being too large for various reasons. A flock of 40 hens I consider about the maximum. Should disease break out it can be kept within restricted bounds.

An Objection.

The only real complaint or objection I have experienced with my W. S. housing system, and to which I am very much alive is this :—

The top stories of these houses are nothing more than the "bed" for the night, and unless one is up at dawn to release the birds they suffer a good deal of discomfort from dawn until they are released.

To overcome this difficulty all that need be done is to fix a strong wire-netting frontage to each shed with a door way. The doors of the W. S. houses may then be left open. The birds will leave their perches at dawn and roam about in the enclosed shed until their lazy attendant comes to feed them. If however the covered-in pen is built sufficiently strong to prevent cats and jackals from tunneling under or breaking the netting, then the strong wire-netting frontage to the shed will not be necessary.

Covered Runs.

The plan of the lay-out Fig. 3 shows the position of the shed and covered run only. It is impossible to rear birds confined all the time in this restricted area. This covered pen provides only the feeding and resting apartments. That these apartments must be covered in on all sides and top, is an obvious necessity. Comparisons are often odious, but the striking difference between my little flock, and those of nearly every other breeder in this station compels me to make this criticism.

When the "Ranikhet" disease raged in all its fearsomeness, while crows died in their hundreds, I gave my birds "penal servitude" for two months in these closed-in pens. A few desi Murgies kept by my servants in the compound without this covered protection all succumbed to this wretched disease, as did nearley every other bird in the station—but my birds survived. I "touch wood" as I write this. I am, however, convinced that food, and especially the drinking water, if protected from contamination by wild birds, and especially crows, this "Ranikhet" disease should never visit the farm.

There are undoubtedly other agencies by which it is transmitted, but that wild birds are the greatest carriers there is never a doubt. If you value your birds have this small area covered in. It will be cheapest in the end.

Details for fixing the wire-netting may be heipful. The posts are fixed in position 2 feet below ground level and 7 feet above. Fencing wire is stretched across the top of the posts, one end being fixed to the shed and the other end fixed to the ground as shown in Fig. 4. A straining bolt is used for tightening.

¾" mesh 3 feet wide is used for the base. Above this another strand 3 feet wide of 1½ inch. mesh is fixed in position. This leaves a clear space of 1 foot at the top as the posts are 7 feet high.

Now lay a strand of 2 inch. mesh over the top of the fencing wire to form the "roof" bringing the *ends* over to meet the *selvedged* edge of the 1½ inch mesh. By this means the "roof" overlaps the sides of the run and this is a better method of fixing netting, than trying to get the sides to fit the exact height of the posts. See Fig. 4.

(To be continued).

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and a brilliant staff of contributors.

FREE ADVICE

on all poultry problems is willingly given at all times.

The practical outlook, the wealth of good ideas and profit-making hints will immediately impress you when you see "The Poultry World." Every page is written by experts who know poultry because their whole lives are spent in the fancy; and they give you the full benefit of their experience liberally and without stint.

You cannot read "The Poultry World" without finding out how to improve your stock, obtain more eggs. earn bigger profits and in general make your poultry more worth while

THE POULTRY WORLD

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Young stock from the said breeds is available at reasonably low rates. Sittings of :

Leghorn eggs @ **Rs. 7/-** per doz.
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12

R. I. Reds. Australorps.
Wh. Leghorns. Bl. Minorcas.

Pedigreed Poultry selectively bred from imported strains of prolific layers—standard type and excellent colour.

Whole-time personal attention—trapnests in use throughout the year.

Cockerels and Pullets (from 6 months old)—Rs. **10/-** each, Trios—Rs. **25/-**,

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Black Leghorn and Wyandottes Rs. **18**/- per sitting of 15, R. I. Reds. Rs. **15/-**.

Ex-Ut Wh. Leghorns.—Australorps, Minorcas, Rs. **10/-** Basras, Ut R. I. Reds Rs. **7/-**.

Prices reduced to encourage poultry breeding. 10% reduction to members of I. P. Club. Young Stock and Chicks for Sale.

My stock won many **1sts**, **2nds** and **3rds** also specials at the **1931** All India, Cups and eight places Allahabad 1932.

Card-board egg boxes, a silver Hen Incubator, and old wirenetting for sale at cheap rate.

Quality Second to None—**S. K. SHAMSHADALI.**
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Quality Gains Confidence.

My numerous wins at this year's

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Fresh stock imported this year. Sittings and young stock available and booked in strict rotation.

Breeds :—R. I. Reds, Minorcas, Wh. Leghorns, Wyandottes, L. Sussex and Chittagongs.

Prices per sitting of 15, N. R.

Chittagongs ... ... Rs. **12/-**
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12 **RAJPUTANA.**

The Celtic Incubator and rearer, 20 eggs size Rs. 25 30 eggs Rs. 30. 45 eggs Rs. 35 Complete with best English Thermometer. Capsule and printed instructions Profitable Poultry Farming in India Booklet Re. 1. "Eggon" one packet makes twelve fowls lay continuously six months Rs 2. "Preserveg" preserves 50 eggs ans. 6. Tick Proof Perch Brackets Rs. 2-8 pair Egg testing lamps Rs. 3. Coloured celluloid rings fowl size ans. 4. Numbered rings ans. 8. Chick rings ans. 4 per dozen. Safety egg boxes ans. 12. Automatic fountains chick Rs. 1-8. Fowl size Rs. 2. Chick troughs Rs. 1-8. Best British made Incubator Capsules Rs. 5. Thermometer Rs. 5. Flint and limestone grit chick size fowl size 7 lbs. Rs. 1-4. Chick rearing meal 5 lbs. Rs. 2. Poultry laying meal 7 lbs. Rs. 2. Poultry Remedies D. R. Cholera and Diarrhoea cure D. R. chicken Pox cure D. R. Vim Tonic pills. D. R. roup cure "Ticklo" kills ticks, all Rs. 2 each. Full detailed illustrated list free. ROSS I. P. G. Poultry Appliances.

IGATPURI G. I. P.

12.

THE POULTRY INDUSTRY.

Reproduced from the "Pioneer" dated July, 21, 1932.

Reference your last leading article in the issue of Wednesday, July 13, recommending the zeminder to do more to induce the *asami* to go in for poultry as a side line to increase his income.

Ever since the dawn of History in India poultry and ducks have been considered as unclean animals by nine-tenths of the population. Hence poultry breeding and sales have remained in the hands of the Khateeks, who were unable to promote themselves into any better trade. The average *asami* does not want poultry—it is "chhooth." Since 1923 I have been buying and incubating eggs from the United Provinces Poultry Association and have given away unwanted cockerels to those of my tenants who kept *murgis*. Invariably within six months they have come back to say that the cocks had been bitten by snakes or killed by dogs or jackals or died of disease.

Since 1923 I have been trying to create a poultry farm such as are found in any other country in the world that would at least pay its way.

After eight years practical experience I respectfully submit that there is not a single poultry farm in the Province—private, Government, or Missionary that sells eggs and chickens for eating and makes a profit. First the temperature bracket 70 degrees F. to 120 degrees F. is too great; European fowls, like Europeans, cannot stand it and perish within three years. Secondly, European fowls are sought after and selected by every parasite and pest and bacillus available and you cannot guarantee 50 per cent. of your hatches available for sale or laying. The temperature bracket 70°—120° is against you for incubating—you cannot guarantee 50 per cent. of hatching. Then European fowls cost too much—the eggs 1 rupee, the chicks 2 rupees, the 2-month old 4 rupees and they must have mixed balanced rations, they cannot prosper on the dunghill like the *desi murgi*. Every chick from hatch to six months old is going to eat at the very minimum 12 seers of wheat (say eight annas) and 12 seers skim milk (eight annas) with free grazing, or else 8 annas green food. Hence the cost has gone up from Rs. 2 for day olds to Rs. 3-8-0 for 6 monthers.

Now we come to marketing. I respectfully submit that nobody in India can compete successfully with the Khateek. There is no law in India for the marking or dating of eggs. There is no published market price for eggs per pound and not per dozen or for fowls per pound instead of per bird. At the present moment in Naini Tal *desi* eggs are selling for 6 as. a dozen stale and 8 as. a dozen fresh and fowls at six, eight, ten and twelve annas each—cheaper than mutton.

Every Hotel and Restaurant has a contractor who supplies their daily wants at prices from Rs. 5 per hundred to Rs. 3 per 100 *desi* eggs—how old no-one knows!

How can anyone sell English eggs tinted, two ounces, and day old at these prices unless it is per pound weight—or seven month cockerels crate fattened weighing between 4 and 5 lbs. except at 12 as. per pound deadweight trussed ready for the oven.

Who will now lead us where angels fear to tread?—GEORGE A. C. HEARSEY (Zemindar, Palia, District Kheri).

PROFIT FROM YOUR POULTRY.

BUT METHODS MUST BE IMPROVED.

Growing interest in the United Provinces.

(By Nur-ul-islam, Editor, Indian Poultry Gazette).

Extracted from our article in the "Pioneer" of August 12, 1932, and modified to make it suitable.

It is gratifying to learn that interest in poultry farming is increasing everyday, more people are taking it up, and Governments, private individuals, and institutions, as well as the Indian States, have fully realised its importance, and now are seriously devising means for its improvement in this country.

The Department of Publicity and Reforms of the U. P. Government have earned the gratitude of the peasant by inducing him to take it up and showing him how to do it. The Imperial Council of Agricultural Research, the most important authority on agriculture in this country, which hitherto had paid little or no attention to this profitable branch of agriculture, has after all appreciated the necessity for its development and is now engaged in examining schemes for its betterment, for which the organisers of the industry are very grateful.

While everyone in the country is busy with this, a letter in the Pioneer of July 21, under the caption the Poultry Industry, explaining the difficulties the poultry farmer is faced with, comes with a view entirely different to everyone's and requires careful thought. I think those who have the cause of the industry at heart should, however, feel obliged to the correspondent for placing before them the great need for concerted action and a well organised programme of work for the future. Perhaps the would-be poultry farmer will begin to doubt whether poultry farming is a profitable industry. Before I proceed any further let me state clearly that there is not the least doubt that it *is* a profitable industry.

Hasty Conclusions.

When one is in a difficulty he is liable to come to hasty conclusions, but how he can improve matters is to try and devise means to overcome it and not give up in despair.

I shall try to explain the whole situation item by item. Regarding the prejudice against poultry being not clean, I must say there is hardly any now, and whatever there is, is dying down very fast. I have only a few instances to cite in support of this argument: that a great majority of the students on the United Provinces Poultry Farm last year were high class Hindu lads, and one was a representative of the Depressed Classes from the C. P., from which classes the asami chiefly comes. The Department of Co-operative Societies, U. P. sent II supervisers for training to the U. P. Poultry Association who were in addition to other students, and the student who stood first both in written and practical examinations, and did even the lowest job, while under

training, was a Hindu from a village. Dr. Moonje, an important figure in India and a member of the Round Table Conference, I was once told by a friend of his at Agra, advocates poultry farming as a suitable and a profitable industry for the India villagers: I was once even asked to see Dr. Moonje in this connection.

Question of cleanliness.

A great majority of the class from which the Asami (the tenant) comes keep poultry. Unless, of course, the Asami is fully convinced of the profitability or the utility of a certain thing he will not keep it: the same applies to poultry, and much more propaganda requires to be done in the villages to convince him of the utility of poultry farming on which he needs education as to how to go about it.

This prejudice is due mainly to the most insanitary conditions under which poultry have been kept up to even recent years, I daresay even now in most cases, and because the eye has been used to seeing an animal kept in dirty surroundings, it is only natural that one should regard it as dirty. I am quite prepared to admit that it would take time to make a change in the methods of keeping poultry current in India and a continuous practice of improved methods under most sanitary and hygienic conditions alone will completely remove the prejudice referred to. But once the people get into the practice of keeping fowls on modern methods the prejudice would automatically die out.

The criticism that there is no poultry farm in the United Provinces which makes a profit is untrue: there are quite a good number one of them of being in *Amroha, District Moradabad.*

European Birds.

I am afraid the statement that European fowls perish within three years of their arrival in India is made without collecting information. Besides the fact that it has been proved both by Government and private farms that European fowls *can* live easily and stand the climate in India, I have a personal example to quote here: I once had 50 Rhode Island Red Chicks of my own and the heat that year was very great. I reared 20 pullets and 20 cockerels successfully and the pullets gave me excellent results both in size and number of eggs,

Regarding cost of production I am afraid the calculation is too generous and most of the items of expenditure can be avoided: why keep birds at a place where there is no green grass to provide your stock with green food? Then I have just received the report of the South India Poultry Association Poultry Show, held in Conoor and it says that the judges were of the opinion that some of the bred-in-India birds were even better than some of the imported ones, *i.e.*, progeny of the birds originally imported, but bred and reared in India, were even better than some of the imported ones. Then why not try the Bussrah and Bussrah X Leghorns that the U. P. Poultry Association has introduced in the villages with good results? The hatches on the *U. P. Poultry Association farm* have always been over 65 per cent. on an average, with artificial methods of incubation.

Whether European fowls can live and lay as well, if kept in the villages under conditions characteristic of the place, as they would if kept on modern lines, is yet to be seen but I have no doubt that they will do so to a very great extent. The whole difficulty with your correspondent, it appears to me, is that of marketing his fowls and eggs at profitable rates. This, I think, can be done. I have two definite suggestions to offer in this connection. But before I do so I must state he is absolutely correct in saying that "There is no law in India for the marking and dating of eggs. There is no published market price for eggs per lb. and not per dozen or for fowls per lb. instead of per bird."

Marketing Methods.

The chief need of the industry in India to-day is to organise marketing and improve its methods, and this has been my first advice which I have been emphasising about for the last twenty years. The Government, of course, should make such legislation as is suggested in the article. But it is up to the people rather than to the Government to take an interest in the matter. Unless eggs are graded, kept clean, displayed in the market in an attractive manner, and methods of packing and transport are improved, I am afraid no Government can help the situation. Then poultry farmers must carry on a strong campaign of propaganda to educate the consumer to appreciate the value of better, clean, nutritious, and big eggs.

There is also a great need for carefully examining the various factors responsible for the difficulty in competing against the *Khatick*. The two suggestions referred to before in this article, which might help to, a certain extent, in the matter, are as follows: —

Clean attractive Stall.

1. That a stall—or a number of them—in hill stations or important commercial or military towns—of big, spotlessly clean, fresh, graded, and, nicely arranged eggs, be established. When I say fresh I mean not more than a day old up in the hills and in the plains in summer, and three days old in winter in the plains and a week old in the hills. This system would attract the consumer or his servant to purchase these at a bigger price than he pays for rotten ones. When the *Khatick* or the contractor sees such stalls of eggs so beautifully arranged getting better prices than himself, because there is bound to be some business in the better quality produce too, human nature demands that he should imitate it and try to get the same quality of eggs so that he may be able to sell them at a better price. This means he would have to buy them from raisers of poultry on modern lines, or from these stalls, where it should be arranged to collect the produce of such farmers only as these, at a price at which they can profitably sell. What is most important at this stage is that such poultry raisers must, on no account, sell eggs at very low prices and the co-operation of every one would be indispensable. There will then be but one alternative and that will be to sell his commodity at a profitable rate which,

in turn, would enable the producer of better quality poultry and eggs to get reasonable prices for his produce.

2. That the producer of better quality eggs should reduce his present rates. Before I close I would invite the attention of the well-wishers of the Poultry Industry in India, seriously to concern themselves with this task which, it is the opinion of the whole world, is one of the surest and simplest means of helping the agriculturist or anyone in need of earning additional income to get relief in times of economic depression, such as are disturbing the peace and prosperity of this country at present. Before I close I would repeat my request to the Government, assisted by the Council, to make the legislation suggested in this article.

THE RELATION BETWEEN ANIMAL HUSBANDRY AND VETERINARY SCIENCE.

Reproduced from the Philippine Poultry Journal.

That the work and knowledge of the animal husbandman and the veterinarian are closely related is too obvious to require discussion or explanation. But just what the relationship is and how it should be considered or adjusted in the practical promotion or development of the live stock industry is not so apparent. Furthermore, the relationship and the application is not the same in all localities nor under all conditions. This variation doubtless accounts for the frequent appearance of articles on the subject in various places. In the present article I shall confine myself to the conditions of application of this relationship in the Philippine Islands at the present time.

I might begin by asking the oft repeated question,—why an animal husbandman and why a veterinarian? It is generally known that the business of the animal husbandman is to produce and to improve the live stock; that of the veterinarian is to heal diseases and injuries of domesticated animals and thus prevent their unnecessary loss. The two aims meet on a common ground; namely, the conservation of animal life for the economic use of mankind.

Animal husbandry promotes the multiplication of animals by the direct means of favouring the union of good animals and bringing into expression their intrinsic merits through careful feeding and proper management. Veterinary science does the same thing indirectly by preventing the death, or deterioration through disease of parents obviously needed for multiplication.

Because the pratice of the veterinarian increases with the increase in animal population, and also because his remuneration increases with the rise of the relative values of live stock whether due to artificial rise caused by the fluctuation of supply and demand or to the rise because of intrinsic value of the animals through being better fleshed, larger or being a good animal for breeding purposes the veterinarian is naturally interested in the work of the animal husbandman. In turn the stockman is interested in the work of the veterinarian because of the protection of the life and health of his animals, which his knowledge and skill had given. Thus, it is evident that the gain of the stockman is the gain of the veterinarian and the loss or poor business of the stockman is also poor business for the veterinarian. In other words it may be said that animal husbandry and veterinary science work for the same goal. Both are interested in the same ultimate object, production of live stock.

Differences, however, do exist in practice.

1. *Animal husbandry is more fundamental than veterinary science.* As animals must exist before they can be treated for ailments the work of the stockman is more fundamental. Veterinary science is only an aid that makes for better success in the proper multiplication of live stock.

2. *Objectives diametrically opposed.* A veterinarian looks for disease in animals and is disappointed in a way when he fails to find it. An animal husbandman looks for disease in his animals only to eliminate the sick ones from his herd quickly unless the animals are of some special merits warranting expensive treatment. These two objectives are not as a rule combined in the same individual. The statement must not be understood in the sense that the veterinarian should not know animal husbandry or the stockman know veterinary science. Indeed some of the best veterinarians in the Philippines and elsewhere possess a very good general knowledge of animal husbandry and the outstanding animal husbandmen are usually fairly well qualified practical if not technical veterinarian.

3. *Antagonistic interests.* The veterinarian in disease control work receives more criticism from the stockmen. His quarantine measures often work a direct personal inconvenience if not an actual loss to the animal husbandman and like the man who obeys implicity the dictum "a bird in the hand is better than two in the bush", the stockman does not worry about his future troubles but rather concerns himself about the immediate ones. Of course, it does not generally take long for him to learn from experience his error in estimating the relative value of his immediate convenience as compared with the future safety of his own property. And that lesson once learned is never forgotten, and in the Philippines there are not many localities where this lesson has not been taught by experience during the last twenty five or thirty years. The result is that it is yearly becoming easier to enforce a quarantine especially if any measure of this kind is preceded by a campaign of education in which the stockmen are reminded of what had happened in the past.

Notwithstanding these differences and because the animal husbandman and the veterinarian must always work together and also because experience in the United States and in other countries seems to show

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2.

that a more harmonious relationship can be secured by reciprocal understanding of each other's work it seems highly desirable to combine, if possible, the two functions in one man. The Bureau of Animal Industry is attempting to do this by employing as stockmen veterinarians who have taken some animal husbandry subjects in his undergraduate years. This would appear to be most economically expedient at the present time in view of the fact in the Philippines because of the relatively low value of the animals, individual treatment is often uneconomical and veterinary science as a profession must concern itself with the prevention of epizootics.

(To be continued).

FATTENING FOWLS.

The gentle art of fattening fowls is sadly neglected in India; Why? Because very few people seem to have tasted the Surrey Chicken, if they had they would start a small fattening plant of their own, instead of eating the athletic cock or old hen that our cooks supply us with as a roaster.

Poultrymen should try to create a market for this type of chicken which, once it is appreciated by the public, will do away with the problem of those cockerels which are not good enough to sell as stock birds, and are a source of loss to many a farm.

The method given below is one I have successfully used during two seasons in India, and I have been able to create such a demand that I have had to refuse many orders for chickens.

The method is as follows—Put the birds you wish to fatten in a quiet spot away from dogs, children, and disturbance. The run should be a small one the more confined the better, ample shade must be provided.

Have some cheap broken rice cooked, a fairly sticky mixture, to this add skim milk and thicken this with atta to the consistency of a cake mixture, when it runs slowly off the fingers it is right.

Starve your birds for 24 hours, then feed the food on boards or shallow dishes. Leave 20 minutes, and clear away everything that is left. Clean the dishes, as cleanliness is most important.

The birds must not be given any water during the fattening period. The food should be given twice a day, as early as possible and as late as possible, and must be freshly made each day.

The birds will eat well for ten days or so and then go off their food. Starve them one day and then continue as before.

The birds should be ready to kill in ten or twelve days, in this time they should have put on half a pound in weight and be soft and succulent to eat.

If anyone is interested in the crate method, which is much more complicated, I shall be pleased to give particulars, if addressed to Surrey Fattener, C/o. Nur-ul-Islam, Esqr., Hony. Editor, Indian Poultry Gazette, 11. Havelock Road, Lucknow, U. P.

SOME USEFUL HINTS.

The Value of Salt.

A proper amount of salt aids digestion. It has a tendency to ward off disease by keeping the fowls strong and vigorous, yet if fed to excess its uses are defeated and it often causes harm by producing inflamation of the mucous membrane. It is also apt to cause bowel trouble and feather losses. Salt will keep the whole system in good working order freeing the blood of impurities, thus avoiding colds, canker or roup. Salt has also a tendency to expel worms in fowls. The best proportion of salt to use in soft mash is an ounce for every hundred birds, and the easiest way to mix is to dissolve the salt in the hot water that is used for the mash.

Watch Young Heavies.

Many a big youngster has been spoilt by a turned breast bone, through lack of attention to the supply of floor bedding. Not only will a heavy youngster, by roosting on the hard floor, develop an imperfect breast bone, but often crooked toes. To prevent this a fairly thick layer of bedding must be provided. Straw is preferable to hay. Due care must be taken to avoid vermin.

* * *

Soft Crop.

At this time of the year it will be noticed that many adult birds, particularly hens, will have enlarged crops, crop binding, or be what is known as "Crop Sick". The dead ends of grass, known as taw grass, is generally responsible for enlarged crops or bound crops, and, though it is not very difficult to cure it, it is more easily prevented by the poultry-keeper going around with a reaping hook and cutting and clearing away all dead grass. Birds that are crop sick, or suffering from a pendulous crop full of fluid are best removed for a few days to a pen. Fast for twenty-four hours, giving a liberal dose of Epsom salts in the drinking water; then feed sparingly with soft food of not too stimulating a nature. Bread and milk is good thing to start with.

* * *

A Garden Dust Bath.

You like a bath, so do your hens—the only difference being that they like it dry as dust. Sift dry road dust or very dry earth and place in a roomy box or in a corner of the run, protected from rain or sun. Mix with this some good insect powder and it will greatly help to kill any vermin.

* * *

Give Flowers of Sulphur.

Cheap and reliable, sulphur is very valuable during the moulting period. Give about half a teaspoonful in the mash to each three birds twice a week.

* * *

The Term "Pullet".

A pullet, correctly speaking, can only be termed as such during the year she is hatched, though it is often the practice to describe birds as pullets for

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2

several months afterwards. The correct term to apply to a bird that has exceeded its hatching year is yearling hen, and is followed by the term hen.

* * *

Moulting.

As the moulting season advances masses of feather will be flying everywhere. Make a determind effort to collect and burn every possible feather. Though moulting is a very natural phase, and really nothing to worry about, attention on the part of the attendant in the matters of good, nourishing food, tonic in the drinking water, absolute cleanliness in the roosting houses and the stoppage of all draughts, at the same time allowing good ventilation, will greatly help birds along.

* * *

Cannibalism and Vitamins.

At the fifteenth International Congress for Anthropology held in Paris in September, Dr. Marie and G. Zaborowski submitted an important note under the title "Cannibalism and Vitamine."

The following is the summary of their opinions :—

It often happens in a flock that one hen begins to pluck out the back feathers of its neighbour and that all the other hens follow suit, with the result that to all appearances the whole flock has been attacked by an epidemic. The writers attribute these symptoms to bad feeding and state that a cure can be effected by giving foods rich in those vitamins which promote oxidation and which contain much calcium.

Human beings sometimes suffer from a bad habit called onychopagy (nailbiting), which the writers consider is equivalent to the symptoms in hens described above.

The writers proved that both in case of children and adults the cause of this was insufficient nourishment and that an absolute cure was effected by feeding vitamins. Other diseases are also attributed to insufficient nourishment, and can be cured by an increase in vitamin consumption.

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LETTERS TO THE EDITOR.

DEAR SIR,

This little barge of ours—The Indian Poultry Gazette—after its being afloat has, I presume, always been in "rough weather". Captains have so often changed, destination all of a sudden altered, progress impaired yet to see it making headway and fight out the battle of ignorance and superstition is a great pleasure and speaks so much of the great work of the people who in spite of their manyfold duties have always been willing to 'keep the boat going' and all for thanks on perhaps a scowl from a dissatisfied member. Superstition I say for poultry keeping in India is a superstitious job as we know.

Our thanks are due to Mrs. Foden—late editoress—for Managing the Gazette so well, and improving its features, I hope she comes back to India again and gives us her new experience of poultry husbandry. Let us wish her *bon Vayage.*

Mr. Editor, will you or any one else give us, through the columns of the gazette, details about this 'Biscuit Meal' affair the why and wherefore of the use of which we hear so much nowdays. We have been told of its importance in the ration but not what biscuit meal means, how it is to be fed, etc. I wasn't, and I do not see why any one else should be, surprised when poultry enthusiasts ask whether they should use Huntly and Palmers, Delhi or Spratts biscuits ! a thrashing out of the subject will help to clear a lot of doubts. An approximate chemical analysis of biscuit meal would come in very handy.

Yours for the betterment of Poultry,

C. JUSAWALLA.

The analysis will appear in a later issue as space does not permit it this month—*Editor.*

Some Experiences with Marketing Table Eggs.

On the request of the Honorary Secretary, Indian Poultry Club, I wish to record my experiences and observations in connection with the trade in table eggs in the area embracing Saharanpur, Dehra Dun and Mussoorie. I have observed the very poor quality of eggs distributed by Local bazar dealers and which are sold retail at such amazingly low prices that it is practically impossible for the honest farmer to compete, more especially since the public (I refer to the European egg-eating public) afford him (the farmer) no assistance by buying his produce and prefer to buy eggs of doubtful quality and freshness so long as they can save a few annas, forgetting that a large fresh egg of sound quality, *is in reality cheaper than the other sort.* A great deal must be said too, about the hold menial servants seem to exercise over the 'memsahib' of a household; usually the purchase of poultry produce is left in the hands of the Khansama who makes quite a living out of the 'dastoorie' he gets from the vendors. I am afraid the average memsahib is too slack and indifferent to get value for money and so the poisonous system goes on. In an Indian household on the contrary, the executive is very careful to

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obtain the cheapest as also the best for money laid out. The only way, in my opinion, to market good eggs, is to form depots at selected centres, for retail distribution. These depots would deal wholesale and take on contracts with retailers. Transport rates could be settled locally, and since Government appears willing to assist rural industries, they may be asked to reduce railway rates on poultry produce, to suit the pocket of the poultry farmer; this is most important and steps should be taken in the matter without delay. The depots abovementioned, could even be under the aegis of the Registrar of Co-operative Societies who would be responsible for the preparation of statistics for publication; in this manner it would be readily seen how the poultry industry progresses.

The rural farmer would necessarily have to stabilise his rates and the buying public would therefore be safeguarded from extortionate retail prices; this necessitates publication of market prices in suitable newspapers.

The practice of dumping large quantities of good, bad and indifferent eggs in hill stations should be put a stop to and this can be done if poultry farmers are assured of a constant sale to the Depots referred to previously; villagers could very easily vote their representative whose duty it would be to deal direct with his nearest Depot. By the establishment of a small market stall in each station the distribution of produce would be facilitated and the retail customer, memsahib or otherwise, would be satisfied. Municipal authorities must not have a finger in the pie, but the Civil Surgeon (Indian or European) should be charged with the duty of seeing that only the best commodity is retailed.

MAJOR R. ROSE, M.C.,
Kennora,
Mussoorie,
U. P.

THE INFLUENCE OF DIET UPON THE COURSE OF COCCIDIOSIS INFECTION IN CHICKENS.

(Continued from last month.)

Accordingly, with the supervision of the Veterinary Department of the South-Eastern Agricultural College, a further experiment was planned under what appeared more controlled but still farming conditions. The plan of the experiment was as follows:—

Six hover houses and sun parlours were selected. In none of these had there ever been chickens, with a known history of coccidiosis. These houses were grouped in pairs. One pair was scrubbed out, disinfected and sterilised as far as possible with a blow lamp.

The second pair was scrubbed out and disinfected only. The last pair was scrubbed, disinfected and blow lamped and then infected with coccidia by spreading a mixture of droppings of infected chicks equally upon the floor and brushing these out after 24 hours.

Into each prepared house 94 chicks all from one hatching were placed. The chicks in one house of each pair were fed the institute ration, the results which followed were practically identical with what had previously been experienced. These are herewith tabulated :—

Ration.	House.	Number of chicks which died per week.								
		1st wk.	2nd wk.	3rd wk.	4th wk.	5th wk.	6th wk.	7th wk.	8th wk.	9th wk.
Store Ration. ...	Disinfected and blow-lamped.	0	0	0	3	34	40	8	Survivors unthrifty killed.	......
Store Ration. ...	Disinfected. ...	0	0	0	20	29	28	5	Survivors unthrifty killed.	......
Store Ration. ...	Disinfected blow-lamped and re-infected.	0	0	0	6	67	12	4	Survivors unthrifty killed.	......
Normal Institute Ration.	Disinfected and blow-lamped.	0	0	0	2	4	1	1	2	4 unthrifty killed remainder sent to fatten.
Normal Institute Ration.	Disinfected. ...	0	0	0	1	0	1	5	1	3 unthrifty killed remainder sent to fatten.
Normal Institute Ration.	Disinfected blow-lamped and re-infected.	0	0	0	3	11	4	2	1	4 unthrifty killed remainder sent to fatten.

This time, however, all the chicks which died were examined at the College Veterinary Laboratory. An interesting and important point established by these examinations was the fact that the deaths which occured among the chickens fed the normal Institute ration were also due to coccidiosis in the majority of instances. Had these post—mortem examinations not been made it is probable that the mortalities would not have excited comment and the presence of coccidiosis infection would have remained undetected.

In none of the houses did deaths commence until the fourth week, and it was during the fifth and sixth weeks that the death-rate reached its peak and the post mortem examinations showed accute coccidiosis infection. Thereafter the deaths diminished and a number of the chickens died as a result of the coccidiosis infection, though the accute disease had run its course. This was indicated by the emaciation of the chicks and the presence of firm casts in the caeca, though microscopical examination of these casts and of portions of the intestine showed few or no oocysts.

By the end of the seventh week 256 birds out of 272 birds fed upon the store ration had perished and the remainder were too unthrifty to make further rearing profitable. As against this, at the end of the eighth week only 39 birds fed upon the usual Institute ration had died from disease. The following week 11 were killed because of being unthrifty and 22 birds were drafted into the fattening pens.

The deliberate infection of pens had little effect upon the course of the epizootic, and the experiment illustrates in no uncertain manner the impossibility of excluding coccidiosis from brooder houses under ordinary farming conditions, even though all ordinary precautions are taken. That deaths did not commence until the fourth week suggests that the initial infection of the chicks was not a heavy one, and it was only after recontamination of the houses by the chickens, droppings commenced that the infection became sufficiently severe to kill the chicks.

Finally, the experiment strongly indicates that the nature of the ration plays a vital part in determining whether chickens are going to withstand or succumb to coccidiosis infection, an infection which the great majority of chickens are exposed to.

It is hoped that the necessary aid may be available to continue this investigation both under controlled laboratory conditions and in the field, where the important factor or factors in the diet may be arrived at by adequately planned experiment, and further knowledge concerning the relationship between the parasite and the host obtained.

Speaking of coccidiosis in the informative paper he read to the National Poultry Parliament at Scarborough, Mr. Y. Watanabe said :—I am already quite certain that this disease can, to a very great extent, be both prevented and controlled by a skilled poultryman. I cannot deal fully with such a big subject at the present moment, but summarised quite briefly, I have reason to think that the coccidia can go through the necessary cycle *for their reproduction only* in the *unhealthy* intestines of an overfed chick. Where the insides of young chicks are kept healthy by their having periods of rest from feeding where in other words, young chicks are fed by a highly skilled attendant who keeps them lively for each feed and also keeps the litter free from the musty left-overs of the meal before, the chicks have the very highest resistant powers against coccidiosis, since the coccidia cannot reproduce themselves in the healthy intestines. This theory explains the successful way in which coccidiosis has been controlled by removing chicks to clean ground or by the continual relittering of intensive brooder houses.

PRODUCING AND HANDLING QUALITY EGGS.

(Continued from last month.)

Rations which force production tend to produce an excessive number of meat spots or blood spots in the eggs. Such eggs are unsalable as fresh eggs.

Liberal feeding of yellow corn or green leafy feeds such as clover, alfalfa, cabbage, and sprouted oats, cause rich yellow yolks. The dark coloured yolks are richer in vitamin content but otherwise no different in food value.

Clean, dry, dark nests prevent the sun from shining in directly into the eggs and prevent the hens from scratching in the nest. Therefore, there are fewer broken and soiled eggs. Dark nests of the trough type, allowing one foot in length for each five hens are satisfactory.

To Prevent deterioration after the eggs are laid, collect eggs in clean galvanized iron or wooden buckets. Baskets or collapsible containers cause breakage. Collect the eggs at least twice a day in winter and in summer, and at least once a day at other times.

Dispose of all males, or at least remove them from the laying hens, as soon as the breeding season is over. Fertile eggs deteriorate rapidly in summer weather. Unless the males are to be used as breeders the following year, they are only an added expense in the flock and the sooner they are disposed of the better.

Always keep eggs in a cool, dry place. The cellar is the best place on most farms. If the eggs are kept covered with a cloth or by other means, it will reduce evaporation. Eggs readily absorb strong odors. Keep them away from such materials as kerosene, onions, fish or other strong-smelling substances.

Never expose market eggs to direct sunshine, rain or extreame heat.

Do not market eggs from a stolen nest. Some of them may not be good.

The condition of the egg shell is important.

Thin-shelled eggs break easily. Be sure that the hens have a plentiful supply of lime. Keep oyster or clam shells before them all the time and during periods of high production add 5 per cent. of bone meal in the mash. One per cent of cod liver oil

added to the ration materially improves the egg shells and reduces the number of blood spots.

Dirty eggs are mostly caused by hens walking over them with dirty feet. Keep the hens' feet clean by providing clean, dry litter, do not allow them out in muddy yards and keep them off the droppings boards by tacking poultry netting under the roosts. Be sure that there is a plentiful supply of clean nesting material in all nests. Never allow hens to roost in the nests.

Do not market dirty eggs. If they become soiled, wipe the soiled part of the egg with a damp cloth and allow it to dry naturally. Eggs badly soiled had better be used at home.

Getting the Eggs to Market.

Because eggs are one of the most fragile commercial products, breakage causes the greatest loss in getting the eggs to market. Two important factors are essential in reducing damage to eggs in transit; correct packing by the shipper and careful handling by the transportation company. Breakage is found in from 80 to 90 per cent. of the cases of eggs shipped from Maine when they reach their destination and at least 90 per cent. of this breakage is due to "end crush" of the large and long eggs which stick up above the top of the fillers. Thin-shelled eggs and poor packing is responsible for most of the other breakage.

To avoid this condition one of two things is necessary. Either less large eggs must be produced or they must be graded and packed in containers large enough to carry them safely. It is not desired to recommend the production of smaller eggs, of course, but big eggs which reach the market broken are a total loss. Care must be taken to use proper containers and to properly pack them. The following is recommended as the most satisfactory method of packing eggs.

Use standard egg cases in good condition.

In packing, only new standard honey comb fillers should be used. These come in regulation size of 36-egg capacity, with cells $1\frac{3}{4}$ inches square.

There are two depths, one being the ordinary filler with walls $2\frac{1}{4}$ inches in depth, while the extra deep filler has walls 2 7-16 inches in depth.

The cup flat is now considered the best type of flat for safe carrying of eggs, and may be combined with the standard fillers.

They are much preferable to plain flats for they tend to prevent cracking of eggs when dropped into filler sells, and they also prevent shifting of the fillers in the case. The content of leaky eggs runs in the grooves between the cups and does not soil other eggs. They also hold eggs upright, resulting in improved appearance.

When using this flat it is not necessary to use excelsior cushioning, for two flats placed back to back at bottom and top with one between each layer makes the ideal package.

Some prefer to use an excelsior pad at bottom and top with a cup flat under all except the bottom filler.

Another method, when using plain flats, is to use excelsior pads, placing one at the bottom, one at the top, and one under the top filler, in each of the two compartment with a plain flat under the second, third and fourth fillers in each compartment.

No flats should be used under or over fillers when excelsior pads are used. Excelsior pads permit eggs embedding themselves in the cushioning, while flats prevent it.

Extra deep fillers should be used whenever eggs are too long to fit the standard $2\frac{1}{4}$ inch filler cell. Pack all eggs with points downward, observe if eggs project above filler tops removing such as are too long, and place these long eggs by themselves in extra deep fillers. Usually two of these, one in either side of the case at the top, will accommodate the eggs of most producers. Never put the large eggs in the corner cells. They are the weakest eggs in the case.

Save out all thin-shelled and wrinkled eggs and use them at home or locally. If there are many of these try to correct the condition in the flock.

When extra deep fillers are used it will be necessary to depend the case by adding strips to the top of end and center boards, an inch thick when all extra deep fillers are used, or $\frac{1}{2}$ to $\frac{3}{4}$ inch when less are used. This relieves pressure on the ends of eggs and prevents much of the end crush to large eggs.

Cases should be packed tight so that there will be a slight bulge when cover is nailed down. Nail on the cover by using five cement coated egg case nails, with large heads, at each end of the case. Never nail the cover in the center.

Second hand standard (often called gift) cases, if used should be remailed using three penny fine cement coated flat-headed egg case nails and wired or strapped with flat iron strapping on the sides and bottom of the case. The top should never be wired or strapped.

When packing eggs for the local trade the one-dozen-egg carton, using the 2×6 carton makes an attractive and convenient package. They fit into the standard egg case.

Sound packages, careful grading and packing are essential in preventing breakage and in getting eggs to market in good condition.

I wish India could also appreciate the value of quality in eggs in respect of grades, freshness, colour, and interior conditions etc. Methods of packing can be modified to suit local conditions.—*Editor.*

PRACTICAL NOTES AND SEASONAL ADVICE.

Treatment of Scaly Leg.

A Sodium-fluoride treatment, by which good results have been obtained in Leipzig, Germany, is as follows: —

The powder should be dissolved in a pan of water at 40°C. 5:1,000. The hens are held by the wings and the legs placed in the solution. Each bird should remain about 15 seconds in the bath. The treatment should be repeated at intervals of 2—4 weeks.

Sodium-fluoride is a dangerous poison. If there is a thick crust the legs should first be steeped in soda or soft soap and water.

The Weeding-out Season.

One of the greatest virtues in a poultry-keeper is the capacity for knowing which birds to keep and which to get rid of. Constant weeding-out is one of the most beneficial events in the poultry run. Some people completely throw away their chances of record profits by keeping on hand a number of cockerels or a lot of hens that are well past the profitable stage. In a nutshell, it is much better to keep too few than too many.

In one sense the season for weeding-out never begins and never ends—it is a necessary process going on every month of the year. In another sense it falls round about this period (summer). For profitable poultry-keeping (apart from exhibiting), it is not wise to keep hens over their second year; and that second year, on the average, terminates during the late spring or early summer months. Hens should be cleared out, therefore, as soon as their prolific laying powers seem on the wane, and at an appreciable period before the moult commences. If delayed too long they will have to be kept in idleness probably for several months before they recommence laying.

Room will be required for the chickens growing up; if they have to be crowded out for the sake of those old hens the result will be that, instead of the pullets coming on for early autumn laying, they will not commence until winter has almost passed.

Experience shows that it is more profitable to sacrifice old birds even at less than their value so as to enable the young stock to grow and mature well and earlier. The question of how to dispose of the old stock to the best advantage will have to be settled according to the locality. In some parts there are higglers who will buy them up freely, but in cases where stock to be disposed of numbers only a few it will be necessary to do the potting at home. In the latter case begin early and if possible, pen off the doomed ones to fatten for a few days before killing, whilst the runs they have occupied can be rested preparatory to being filled with younger birds.

Weeding-out should also be carried out in the case of the young stock. Chicks showing the slightest deformity must be got rid of, as not only are they a continual eyesore but they never make good and seldom prove a source of profit.

Troublesome Colds.

Colds at certain seasons of the year are common, and, unless precautionary measures are adopted in advance, serious trouble may ensue. Bronchitis, catarrh, and roup are all later developments of a cold which has not been treated in its early stages. As anything in the nature of a cold in the head is highly infectious, it behoves those whose birds contract a cold to take steps immediately and isolate the bird or birds affected.

Sneezing is one of the first signs. A watery discharge may be noticed on the eyes and nostrils; puffiness around the eyes, and the eyes themselves appear dull and listless. If bronchitis is present the comb and wattles will have a bluish tinge, the breathing will be rapid and accompanied by a wheezing and rattling in the throat. The causes may be many, but it will suffice to mention the chief.

Draughty houses and damp runs cause most trouble, while bad ventilation is responsible for more colds than one might imagine. Birds kept in a stuffy house and let out in the morning to face keen winds will have little chance of avoiding cold. The houses should at all times be well ventilated, and the perches so arranged that the birds breathe fresh, pure air without being exposed to draughts. A whole pen can soon be in the grip of a severe cold, and to avoid such all new birds should be kept under observation in a separate run for at least three days before they are allowed to run with the other fowls.

The treatment of a cold taken in the early stages is quite simple, and in the case of normally healthy stock usually efficacious. First isolate the affected bird or birds, and do not fail to spray the house and run from which they have been taken with disinfectant, either carbolic or one of the coal-tar group. As a further precautionary measure mix a few drops of oil of eucalyptus in the drinking water for two or three days, and afterwards the water may be just tinged with permanganate of potash.

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Questions under this heading are answered free of charge on this page.
Letters should be addressed—*BUFF ROCK*,
C/o. The Hon. Editor, I. P. GAZETTE and marked "Query".
Where readers desire an individual reply they should enclose a stamped addressed envelope and a fee of As. -/8/- is charged.

(Continued from last month).

A.—I am afraid without handling your birds I am unable to give you a definite opinion but from the little description you have given I am inclined to think that the complaints you have against your birds are due to three causes, *viz.*, wrong feeding, bad general management, and the disease they suffered from which, if it was "Ranikhet", because there was a great loss through this in the plains during the season you took your birds there, rendered them absolutely unfit for breeding and egg production: birds that suffer from this disease lay hardly any, or no eggs and have no vitality left in them. Yes, I agree with the advice given you on the subject. I should just kill them and not use them for the table even.

Miss E. M. from Mussoorie Asks:—Can you tell me why the Sex-linked pullet is never seen or heard of in India?

A.—I think the reason is that Poultry Breeding on Scientific lines in India is yet in its infancy and these are, therefore, very few people who realise the economic importance and understand the laws of Scientific breeding.

I think it is a practical proposition.

Mr. H. S. H. from Allahabad asks:—Would you advise me what breed I should now take on?

A.—For a gentleman of your taste, when you ask me which breed to keep I have two to mention—the R. I. Red or the Australorp, because you want both beauty and eggs.

Mr. G. from Quetta asks:—Would you be so kind as to forward your advice on the following disease in Poultry. Below I give a rough idea of the symptoms :—

(1) Bird is dull and refuses to eat,
(2) After 1st day loses use of legs.
(3) Third day quite unable to move.
(4) Death occurs after about 4th or 5th day.

A.—I am afraid the description you have given Mr. G. is too meagre to definitely tell the disease they are suffering from. I presume you examined the birds and every nook and corner of their roosting houses for "ticks" and did not find any.

If so, I am inclined to think the disease is what in India is called the "Ranikhet" disease. If there is a discharge from the mouth like a sticky matter, laboured breathing, and coughing in a way as if something stuck to the throat of the bird which she cannot pass out it is certain the disease is Ranikhet. If so, I would suggest the following measures may be taken:—

(*i*) All sick birds should be isolated and kept at as great a distance as possible from the well ones: I am only saying isolated and not destroyed and burnt because the pills I have sent you may be experimented upon, otherwise the best course is to kill and burn them.

(*ii*) The healthy birds should be given rectified tincture of iodine in drinking water at the rate of 15 drops to a gallon of water. The sick ones should be given at the rate of 20 drops to a gallon.

(*iii*) Infected and preferably all, land must be thoroughly disinfected by means of spreading lime on it. It should afterwards be rested and ploughed before any birds are put on it. No remedy has, hitherto, been discovered for this disease but investigations are being carried on by the Veterinarians and it is hoped some cure may be discovered.

Mrs. F. S. from Calcutta asks:—Is it possible to sit hens in the rains and if not when is it advisable to start? How many eggs can one place under a hen and can one sit Light Sussex hens? I've had a certain amount of experience of hens at home but everything out here seems to be so different.

A.—With an extra care and attention eggs can always be hatched but the time when eggs should be set is more or less determined by the purpose for which hatching is undertaken, *i.e.*, when are pullets required to lay, etc., and the local climatic conditions.

I hatched eggs in the month of June this year in the Lucknow heat and everyone of the chicks upto this time is hale and hearty.

(To be continued).

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